

What is claimed is:

1. A wireless access control method using a mobile terminal, a wireless base station for communications with the mobile terminal through a wireless channel, an access network control station for control of a wireless access network by communications with the mobile terminal, and a wireless access gateway for establishing a channel between the mobile terminal and the equipment external to the wireless access network, comprising the steps of:
  - 10 the mobile terminal transmitting to the wireless base station a wireless control signal to be transmitted to equipment external to the wireless access network;
  - the wireless base station transferring the wireless control signal to the wireless access gateway without converting the signal;
  - when the wireless control signal is transferred from the wireless access gateway, the access network control station communicating with the mobile terminal through the wireless base station, and determining whether or not communications with equipment external to the wireless access network of the mobile terminal is allowed based on the communications between the station and the mobile terminal;
  - when the access network control station allows the communications of the mobile terminal with the equipment external to the wireless access network, the access network control station instructing the wireless access gateway to establish a channel
- 25

between the mobile terminal and the wireless access network; and

upon receipt of the instruction from the access network control station to establish a channel between the mobile terminal 5 and the equipment external to the wireless access network, the wireless access gateway establishing the channel between the mobile terminal and the equipment external to the wireless access network, and transmitting the wireless control signal to the equipment external to the wireless access network.

10 2. The wireless access control method according to claim 1, further comprising the step of

when the wireless access gateway establishes a channel between the mobile terminal and the equipment external to the wireless access network, the wireless access gateway instructing 15 the wireless base station to establish a dedicated channel between the mobile terminal and the wireless access gateway in a wireless region.

3. The wireless access control method according to claim 2, further comprising the step of

20 when the wireless control signal is transferred from the wireless base station, and when the wireless access gateway determines that a source of the wireless control signal is not allowed to communicate with equipment external to the wireless access network, the wireless access gateway changing a 25 destination of the wireless control signal to the access network

control station, and transferring the wireless control signal to the access network control station.

4. The wireless access control method according to claim 3, further comprising the step of

5 when the wireless control signal is transferred from the wireless base station, and when the wireless access gateway determines that a source of the wireless control signal is allowed to communicate with equipment external to the wireless access network, the wireless access gateway not changing a destination  
10 of the wireless control signal to the access network control station, establishing a channel between the mobile terminal and equipment external to the wireless access network, and transmitting the wireless control signal to the equipment external to the wireless access network.

15 5. The wireless access control method according to claim 2, further comprising the step of

when the wireless control signal is transferred from the wireless base station, and when the wireless access gateway determines that a shared control channel different from the  
20 dedicated channel is used in communications of the wireless control signal, the wireless access gateway changing the destination of the wireless control signal into the access network control station, and transferring the wireless control signal into the access network control station.

6. The wireless access control method according to claim 5,  
further comprising the step of

when the wireless control signal is transferred from the wireless base station, and when the wireless access gateway  
5 determines that the dedicated channel is used in communications of the wireless control signal, the wireless access gateway not changing the destination of the wireless control signal into the access network control station, establishing a channel between the mobile terminal and equipment external to the wireless  
10 access network, and transmitting the wireless control signal to the equipment external to the wireless access network.

7. A wireless access system, comprising:

a mobile terminal for transmitting a wireless control signal to be transmitted to equipment external to the wireless access  
15 network;

a wireless base station for transferring the wireless control signal from the mobile terminal without conversion;

a wireless access gateway for further transferring the wireless control signal when the wireless control signal is transferred from the wireless base station, and when it is determined that a source of the wireless control signal is not allowed to communicate with equipment external to the wireless  
20 access network; and

an access network control station for instructing the wireless access gateway to establish a channel between the mobile terminal and equipment external to the wireless access network when communications are performed with the mobile terminal  
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- through the wireless base station when the wireless control signal is transferred from the wireless access gateway, and when communications between the mobile terminal and equipment external to the wireless access network is allowed based on the
- 5       communications performed with the mobile terminal, wherein when the wireless access gateway is instructed to establish a channel between the mobile terminal and equipment external to the wireless access network by the access network control station, the wireless access gateway establishes a channel
- 10      between the mobile terminal and the equipment external to the wireless access network, and transmits the wireless control signal to the equipment external to the wireless access network.
8.      The wireless access system according to claim 7, wherein when the wireless access gateway establishes a channel
- 15      between the mobile terminal and the equipment external to the wireless access network, the wireless access gateway instructs the wireless base station to establish a dedicated channel between the mobile terminal and the wireless access gateway in a wireless region.
- 20      9.     The wireless access system according to claim 8, wherein when the wireless control signal is transferred from the wireless base station, and when the wireless access gateway determines that a source of the wireless control signal is allowed to communicate with equipment external to the wireless access
- 25      network, the wireless access gateway establishes a channel between the mobile terminal and the equipment external to the

wireless access network, and transmits the wireless control signal to the equipment external to the wireless access network.

10. A wireless access system, comprising:

- a mobile terminal for transmitting a wireless control signal
- 5     to be transmitted to equipment external to the wireless access network;
- a wireless base station for transferring the wireless control signal from the mobile terminal without conversion;
- a wireless access gateway for further transferring the
- 10    wireless control signal depending on a channel used in communications of the wireless control signal when the wireless control signal is transferred from the wireless base station;
- and
- an access network control station for instructing the
- 15    wireless access gateway to establish a channel between the mobile terminal and equipment external to the wireless access network when communications are performed with the mobile terminal through the wireless base station when the wireless control signal is transferred from the wireless access gateway, and when
- 20    communications between the mobile terminal and equipment external to the wireless access network is allowed based on the communications performed with the mobile terminal, wherein
  - when the wireless access gateway is instructed to establish a channel between the mobile terminal and equipment external
- 25    to the wireless access network by the access network control station, the wireless access gateway establishes a channel between the mobile terminal and the equipment external to the

wireless access network, and transmits the wireless control signal to the equipment external to the wireless access network.

11. The wireless access system according to claim 10, wherein when the wireless access gateway establishes a channel between the mobile terminal and the equipment external to the wireless access network, the wireless access gateway instructs the wireless base station to establish a dedicated channel between the mobile terminal and the wireless access gateway in a wireless region.
- 10 12. The wireless access system according to claim 11, wherein when the wireless control signal is transferred from the wireless base station, and when a channel used in communications of the wireless control signal is a shared control channel different from the dedicated channel, the wireless access gateway transfers the wireless control signal to the access network control station.
13. The wireless access system according to claim 12, wherein when the wireless control signal is transferred from the wireless base station, and when a channel used in communications of the wireless control signal is the dedicated channel, the wireless access gateway establishes a channel between the mobile terminal and equipment external to the wireless access network, and transmits the wireless control signal to the equipment external to the wireless access network.